

CALIFORNIA DEBT AND INVESTMENT
ADVISORY COMMISSION

Presents

Investing Public Funds:
Fundamentals of
Managing Your Portfolio

October 18-19, 2007
Sheraton Gateway San Francisco Airport
Burlingame, CA

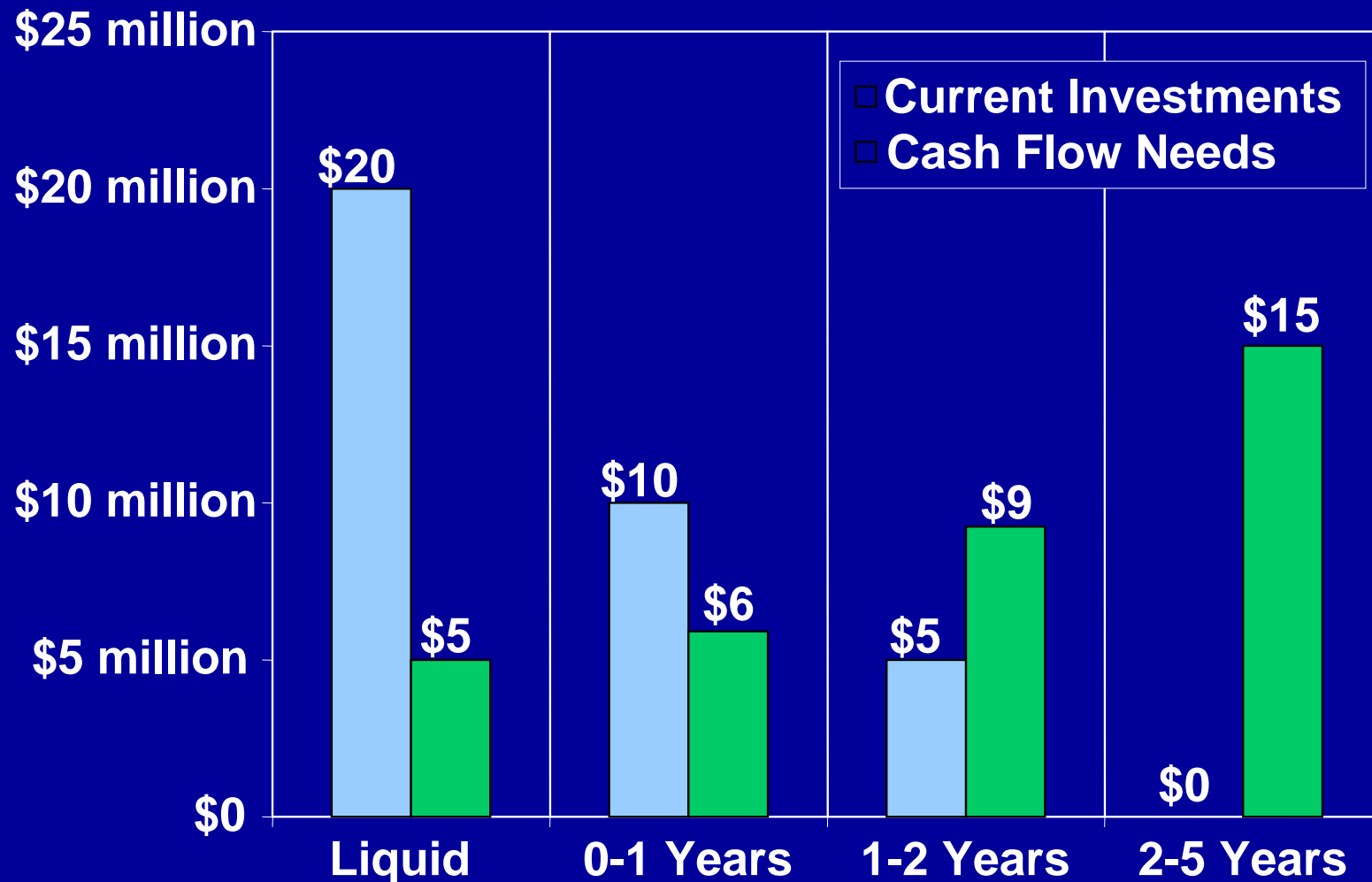
Cash Flow Analysis in Portfolio Management and Investing Idle Cash

Presented by:

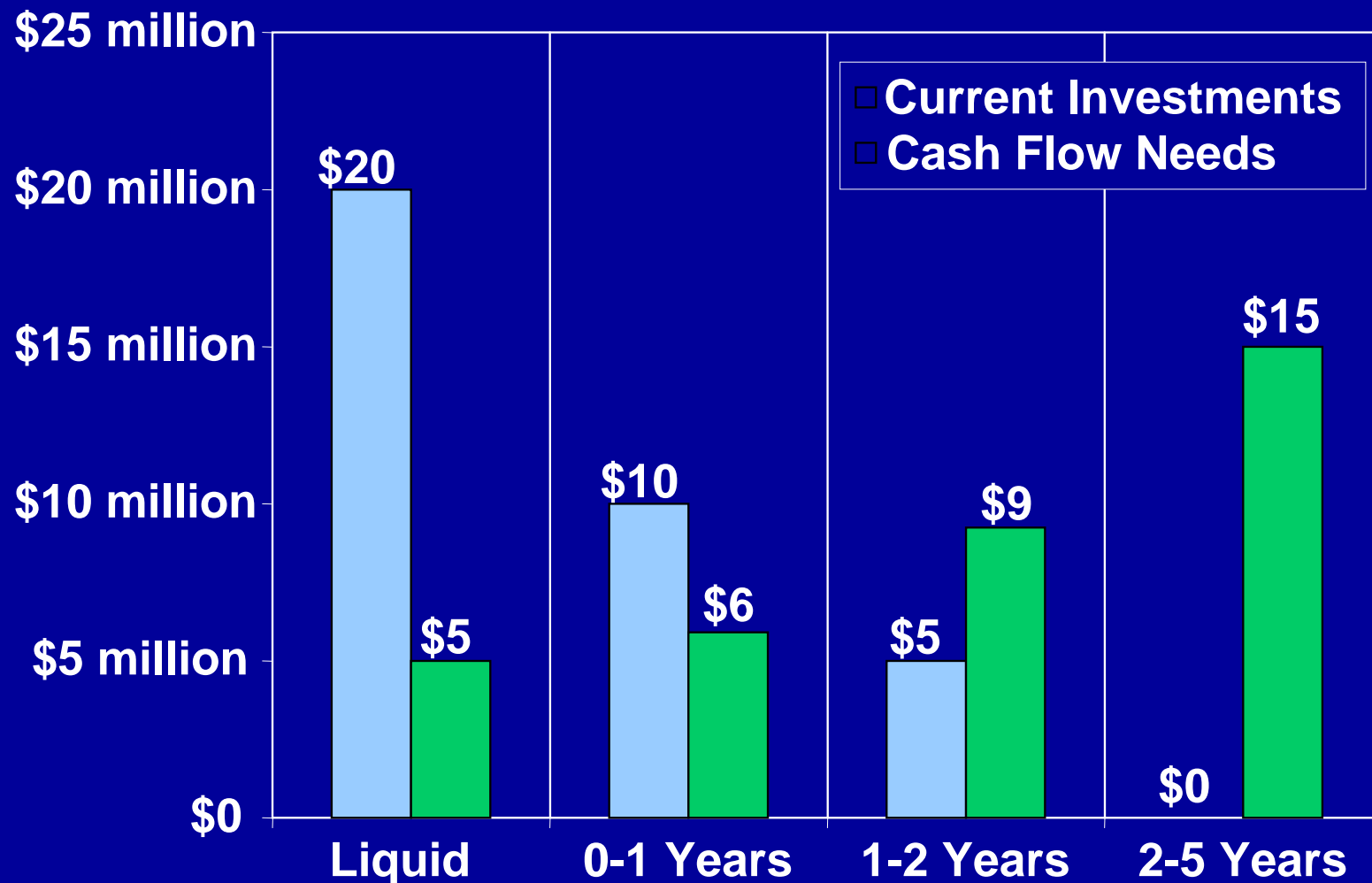
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Do Current Investments Meet Cash Flow Needs?



Do Current Investments Optimize Earnings?



Why Is Cash Flow Critical?

- **Identifies cash needs/deficits**
 - Protects liquidity
- **Improves investment returns**
 - Keeping too much liquidity is an opportunity cost

Cash Flows

- **Most Crucial Questions**
 - How much to keep liquid?
 - How much will not be needed?

Approach

- **Determine Cash Flow Needs**
 - Consider all funds
 - Determine amount of cash needed for expenditures
 - Consider the timing of receipts and expenses
 - Determine amount of funds available to invest longer = “core balance”

Cash Flow Information Sources

- Bank statements
- General ledger balances
- Budgets
- Capital project spending
- Investments

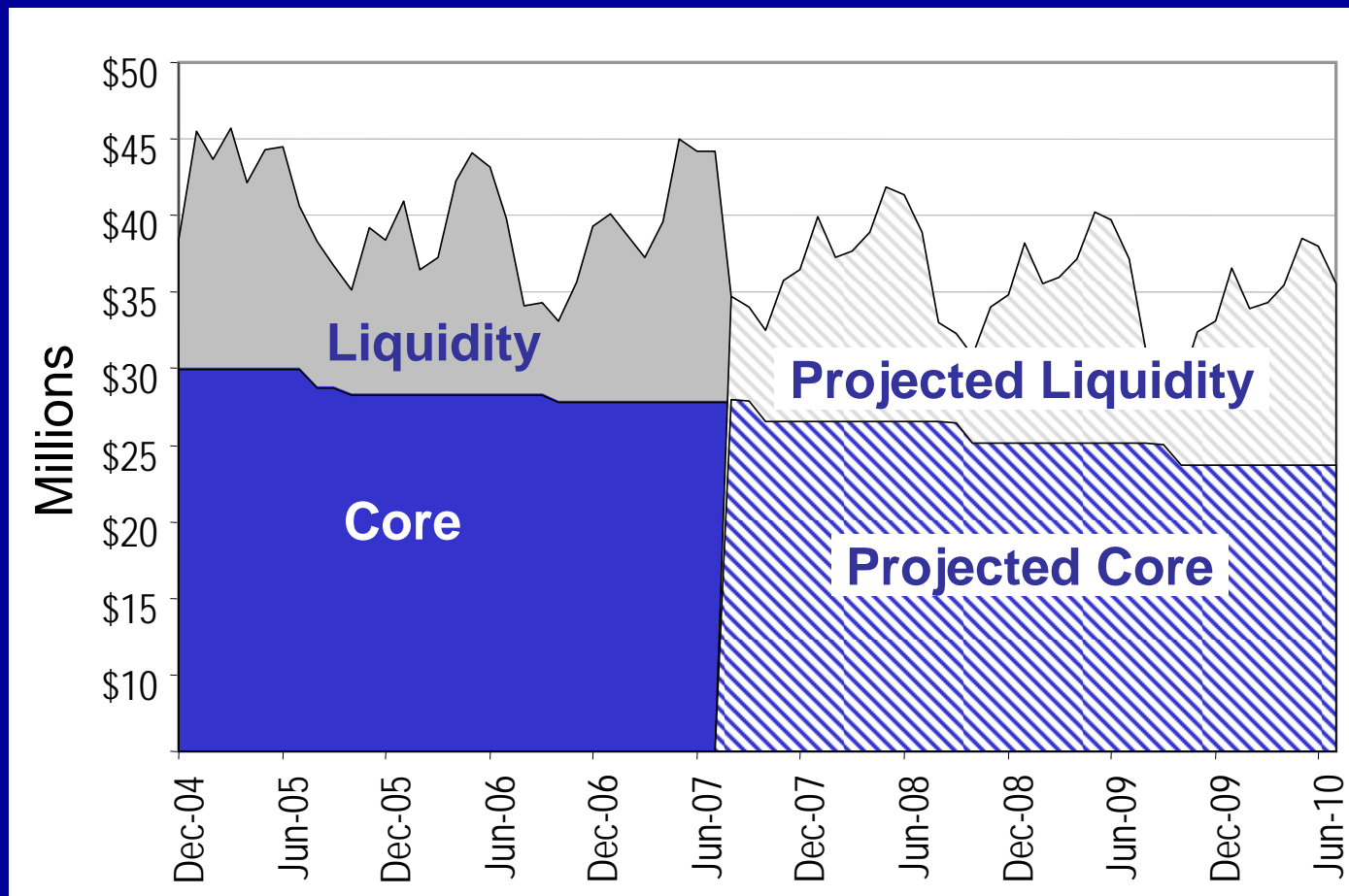
Investment Account Balances						
	January	February	March	April	May	June
2002	536,653	452,132	518,696	661,752	643,689	481,298
2003	549,316	621,776	623,711	646,840	744,342	562,293
2004	533,452	702,719	788,301	724,999	725,778	596,748
2005	701,183	712,314	801,459	762,365	869,018	669,289
2006	692,354	772,075	1,017,162	742,203	931,190	768,193
	July	August	September	October	November	December
2002	432,743	528,846	445,024	447,220	331,327	421,154
2003	560,991	445,720	549,747	591,516	387,385	461,371
2004	559,545	544,939	542,113	552,490	440,764	477,172
2005	524,185	674,253	623,707	647,302	533,477	523,042
2006	560,991	445,720	549,747	591,516	387,385	461,371

Sample Cash Flow Report

(in \$1,000's)	July	August	September	October
Revenues				
Tax receipts	10,000	4,000	300	0
Investment income	350	50	100	150
Other income	1,000	400	10	15
Total Revenues	11,350	4,450	410	165
Expenses				
Accounts Payable	500	0	0	3,000
Insurance Premiums	0	1,000	400	3,000
General Admin.	75	65	65	75
Total Expenses	575	1,065	465	6,075
Monthly Net Cash	10,775	3,385	(55)	(5,910)
Beg Balance	2,000	12,775	16,160	16,105
End Bal	12,775	16,160	16,105	10,195

Perform a Cash Flow Analysis

Analysis of Portfolio Balances



Why Optimize the Investment of Core Balance?

- To meet fiduciary responsibility
- To manage a working asset
- To have funds to spend now and into the future

How to Invest it?

- **Determined by:**
 - California Government Code
 - Investment Policy
 - Investment Objectives
 - Cash Flow Needs

General Objectives

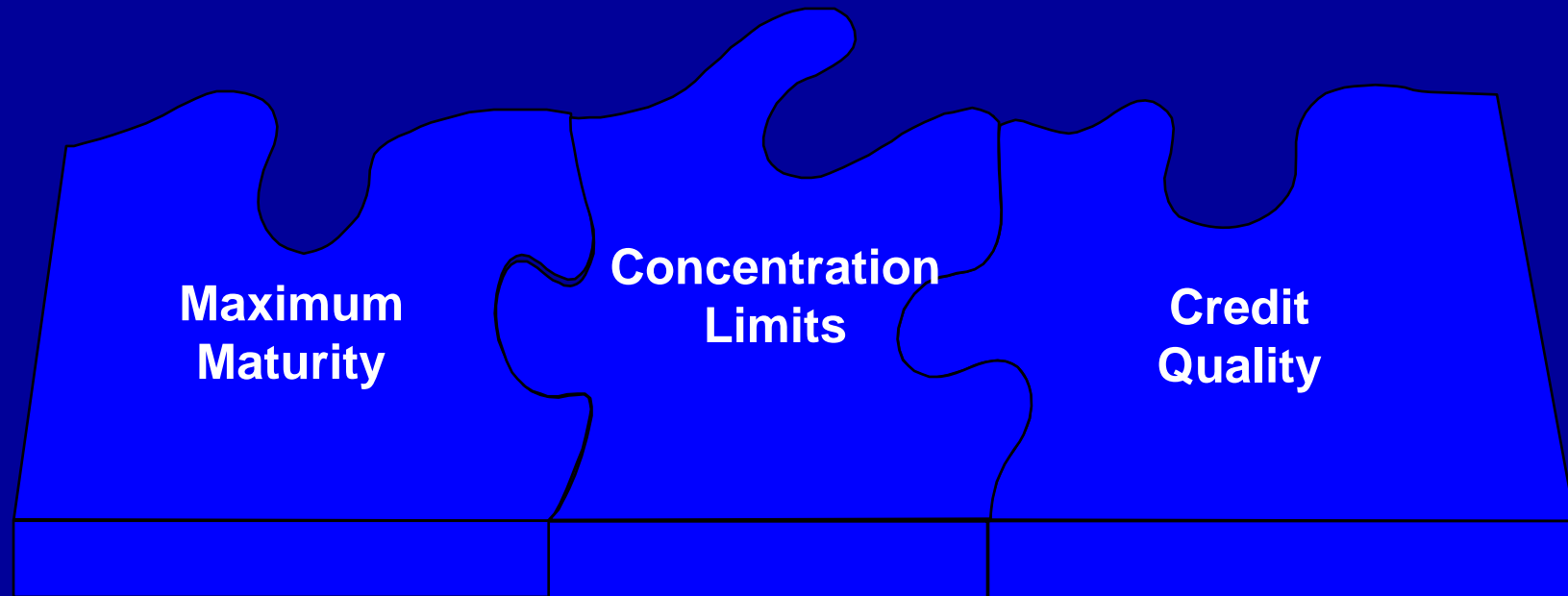
- **Safety — Minimize losses on funds**
- **Liquidity — Keep enough available to meet outflows, both known and unknown**
- **Return — Maximize returns by investing funds not needed**

Specific Goals

- Grow the portfolio value?
- Assure steady income stream?

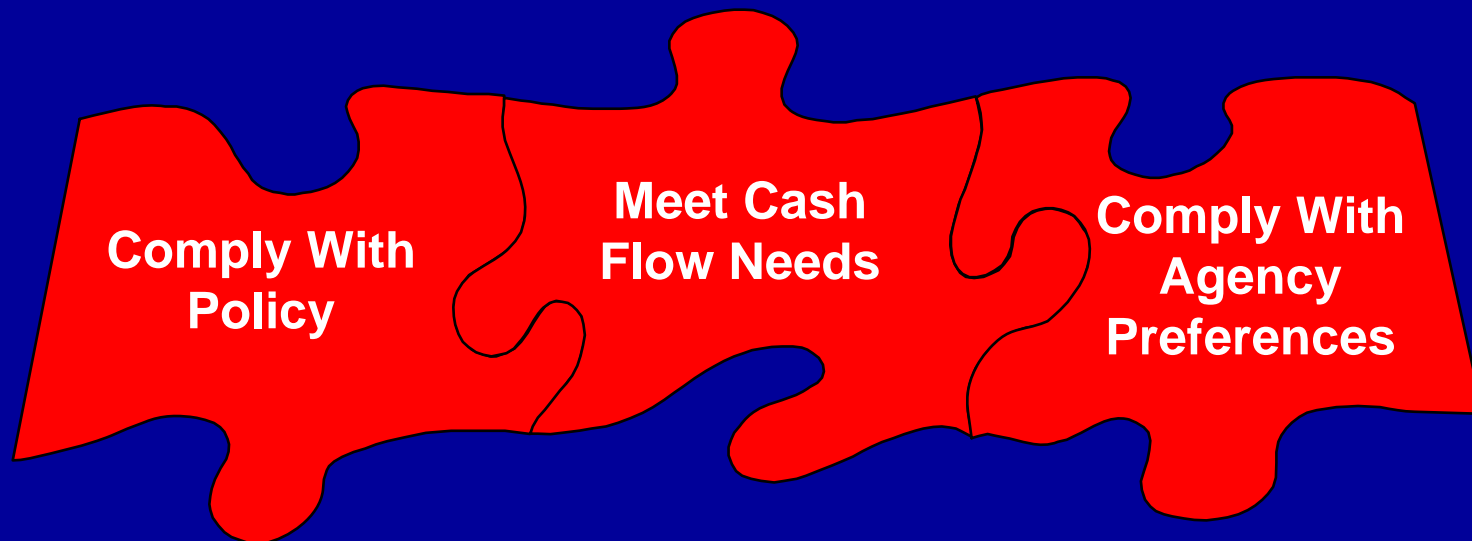
Investment Policy

- Based on government code, risk tolerance, and return expectation, the policy will set forth:



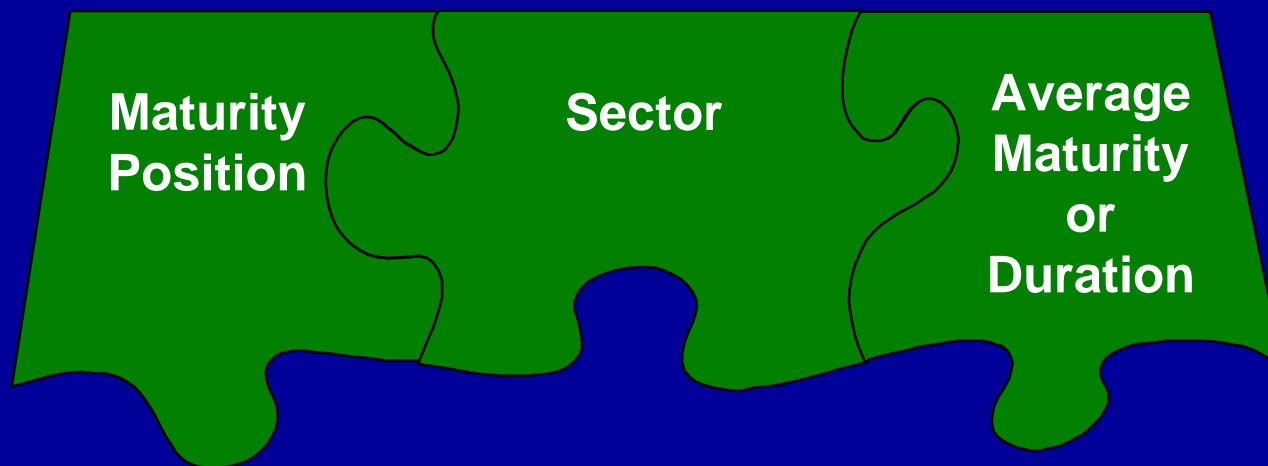
Specific Goals

- Before you buy, you must make sure that the investments:



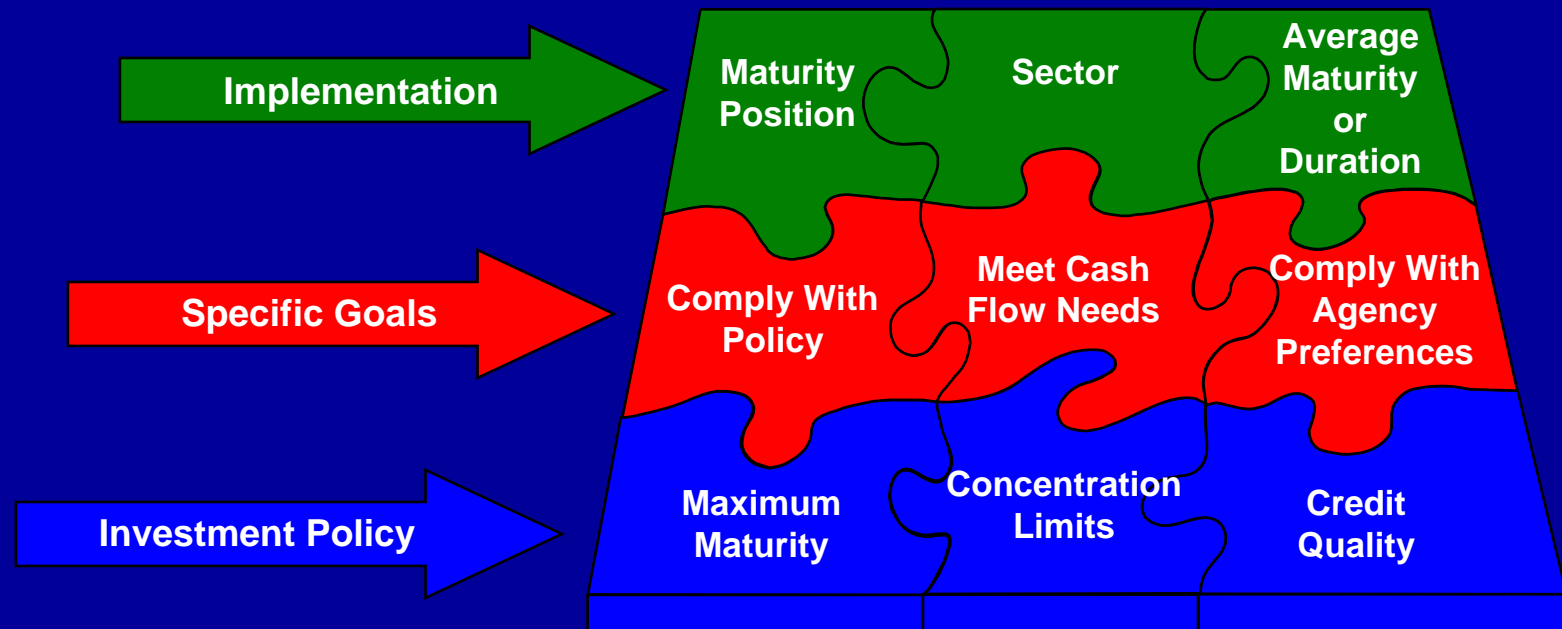
Implementation

- Based upon expected cash flows and investment policy, three decisions must be made:



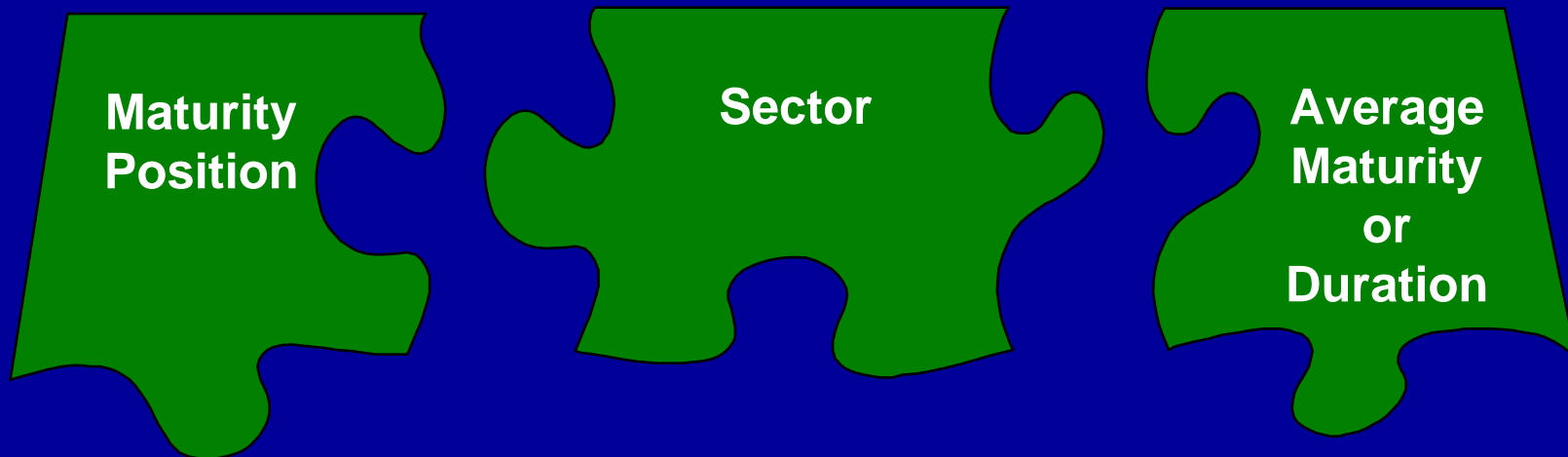
Puzzle Pieces of a Portfolio

- Decisions to be made in any portfolio.



Portfolio Decisions

- Structuring your maturities

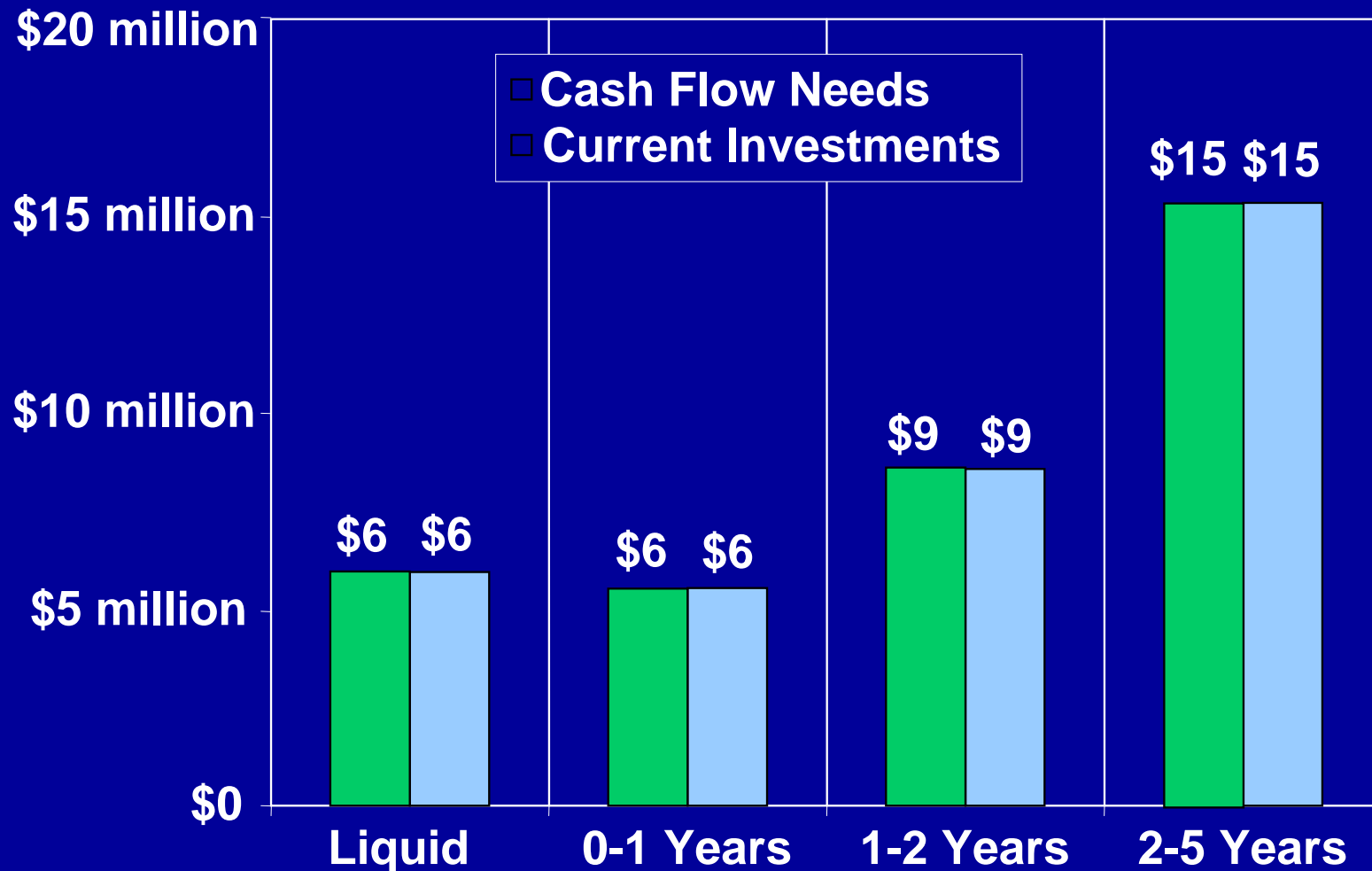


Maturity Positioning

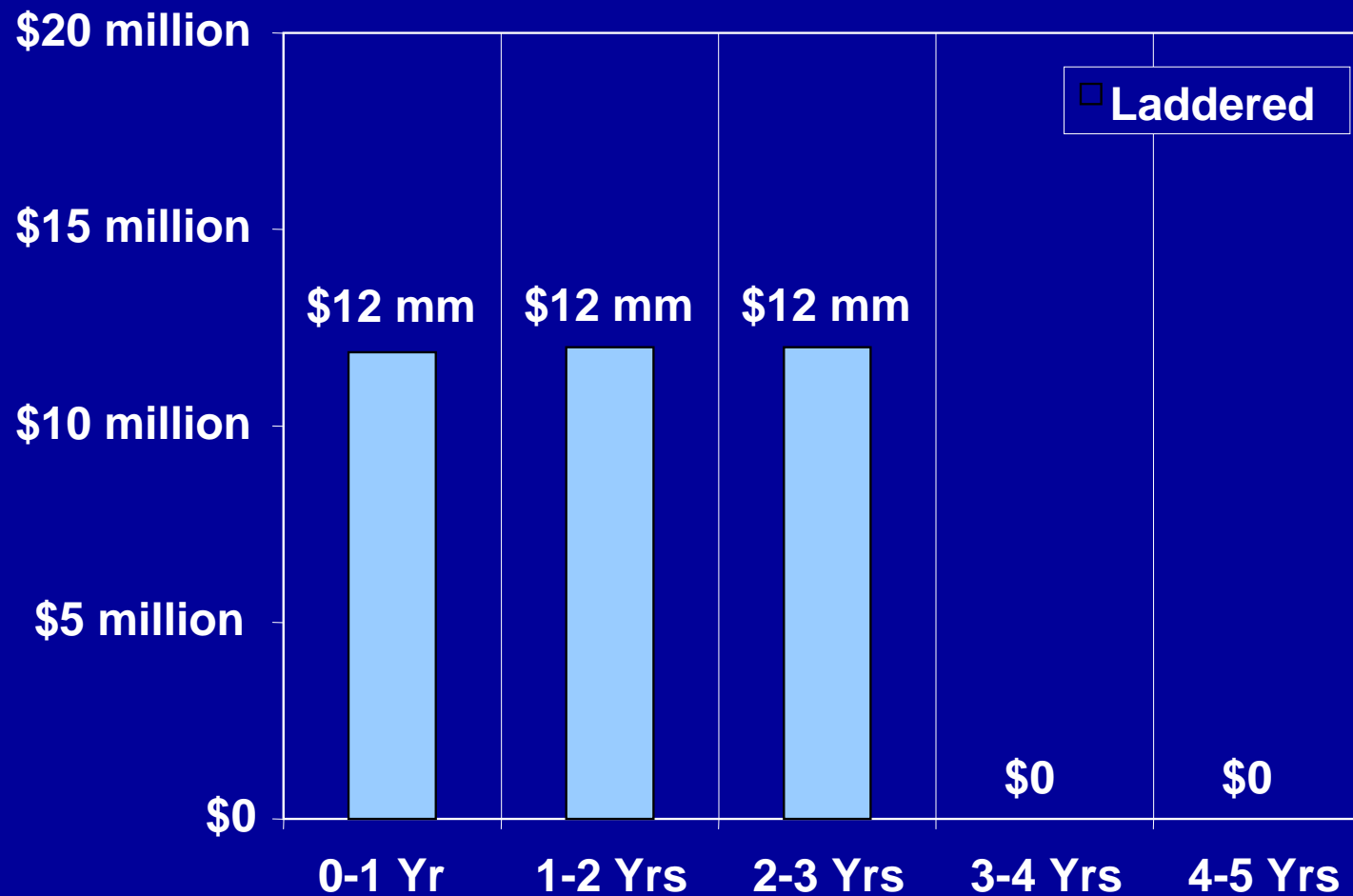
- Once you know your target duration, choose a portfolio structure that will capitalize on market conditions.
 - Match cash flows exactly
 - Laddered
 - Bullet
 - Barbell

Portfolio Structure

“Match Cash Flows Exactly”

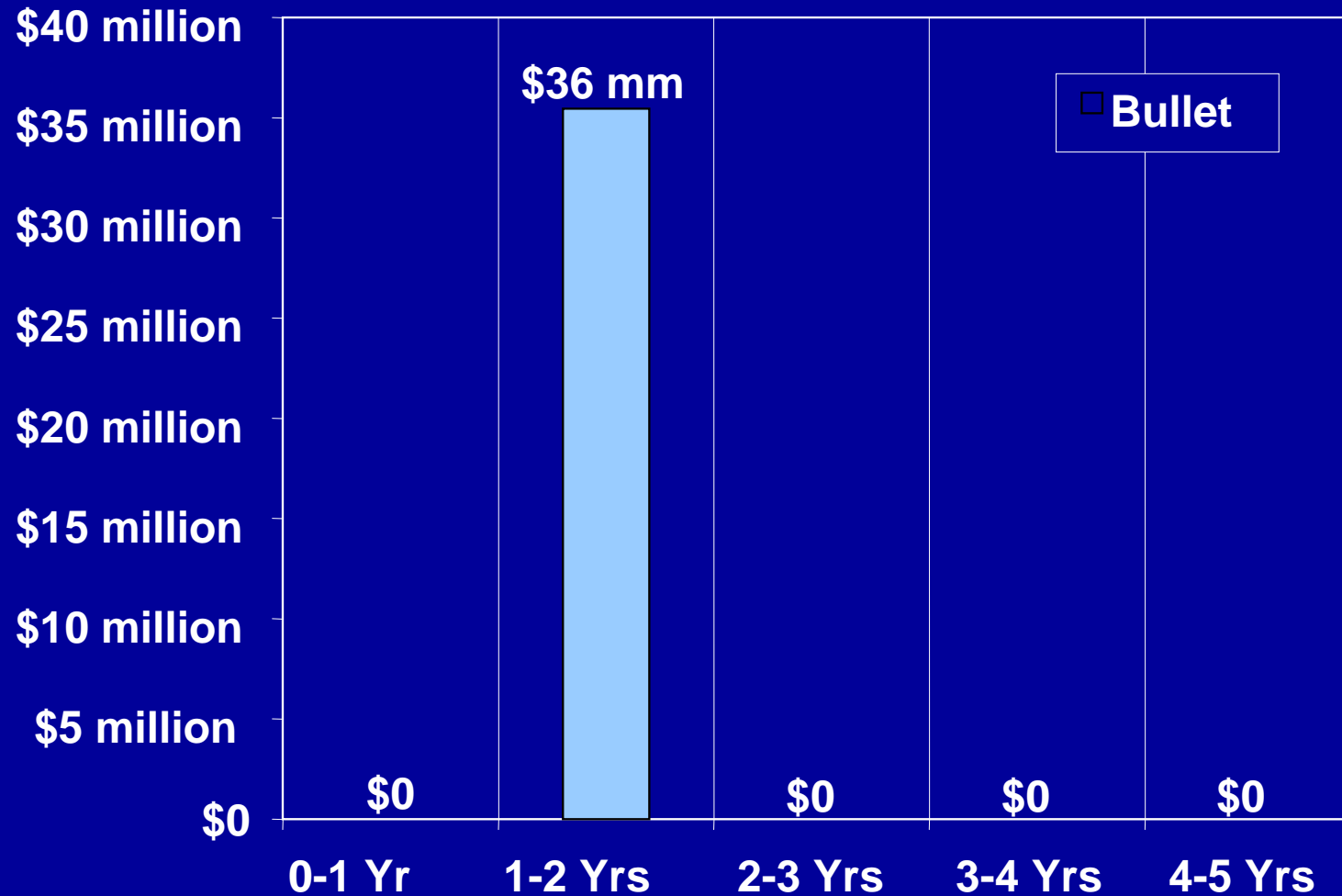


Portfolio Structure “Laddered”



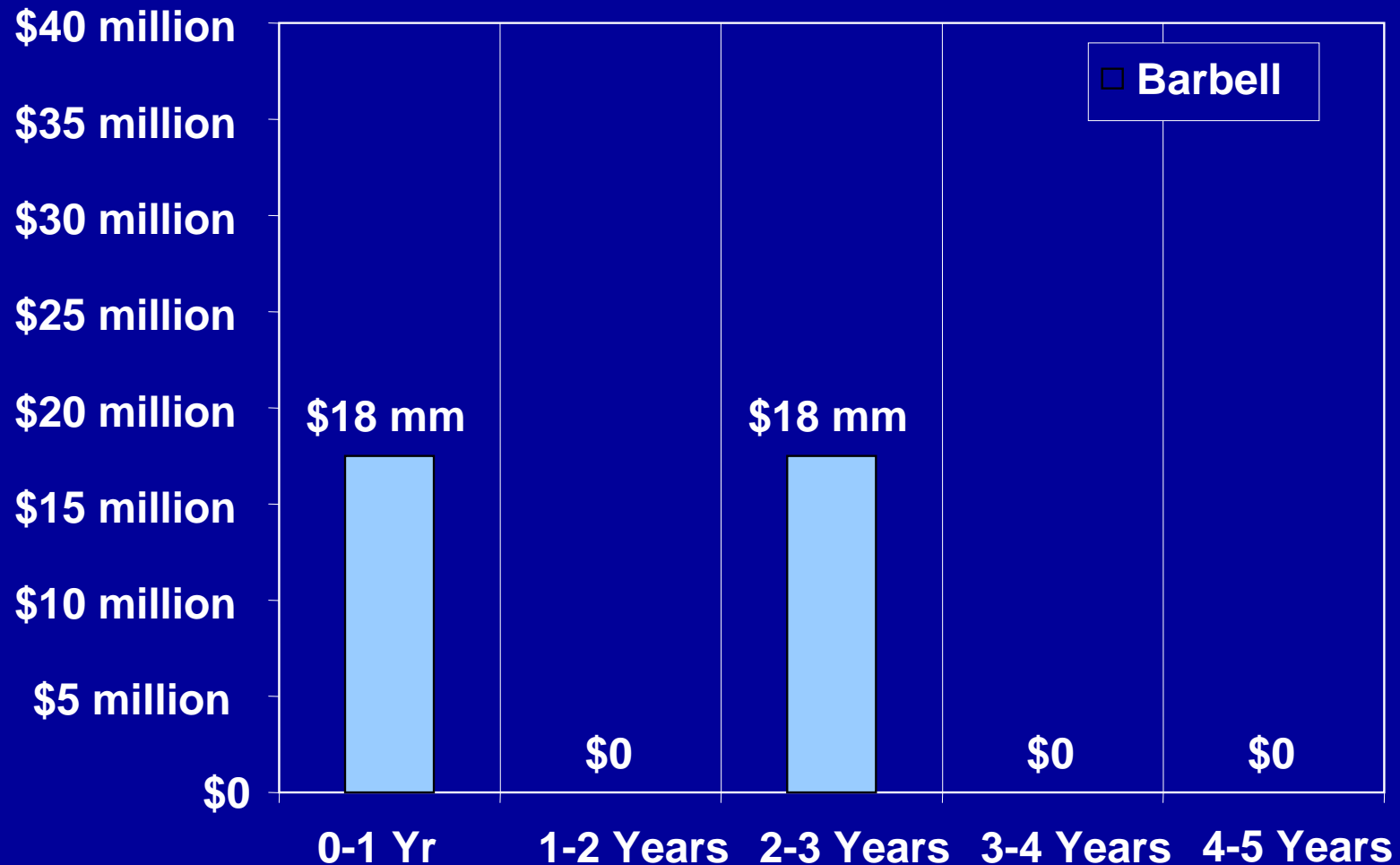
Portfolio Structure

“Bullet”



Portfolio Structure

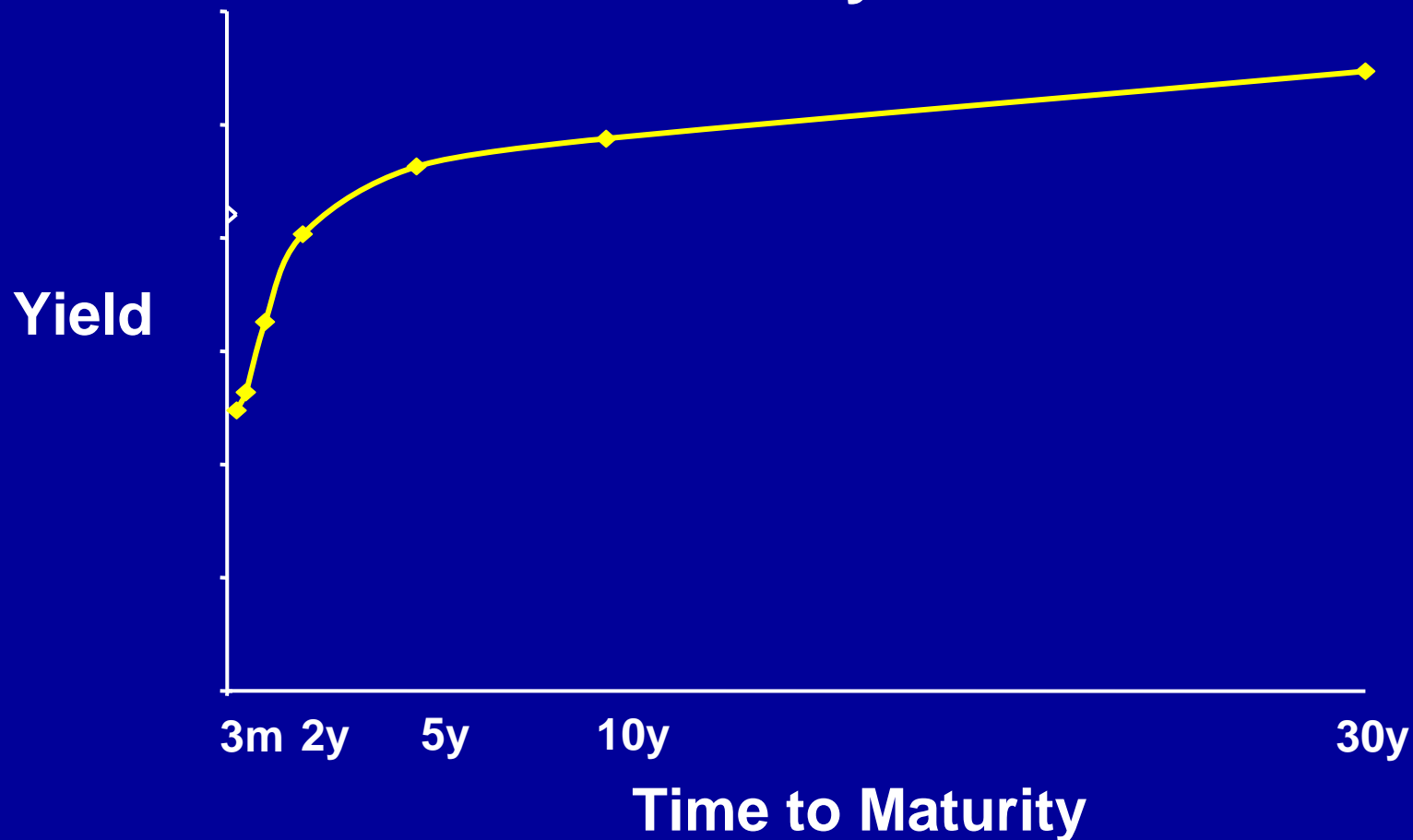
“Barbell”



Yield Curves

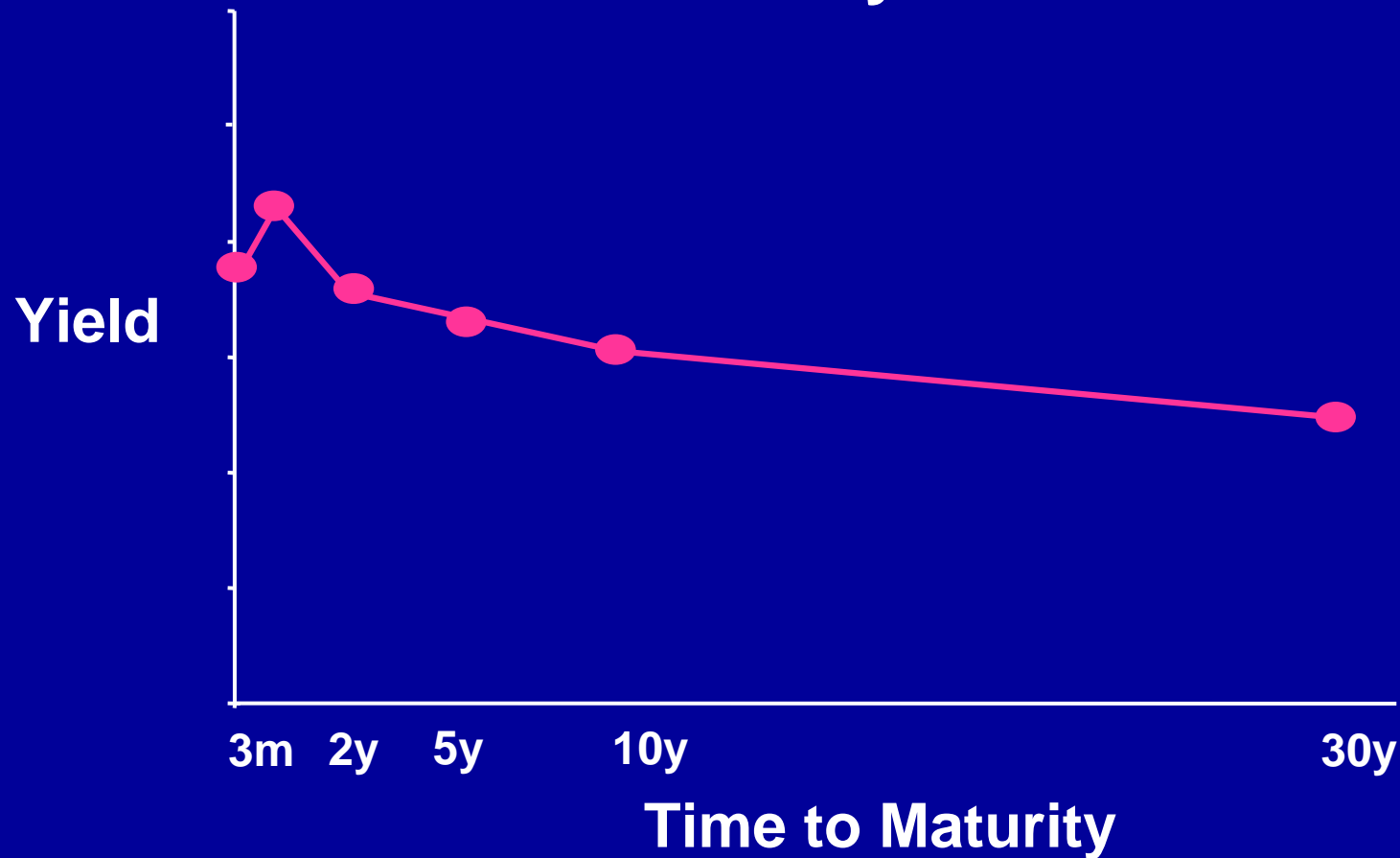
“Positively Sloped”

U.S. Treasury Yield Curves



Yield Curves “Inverted”

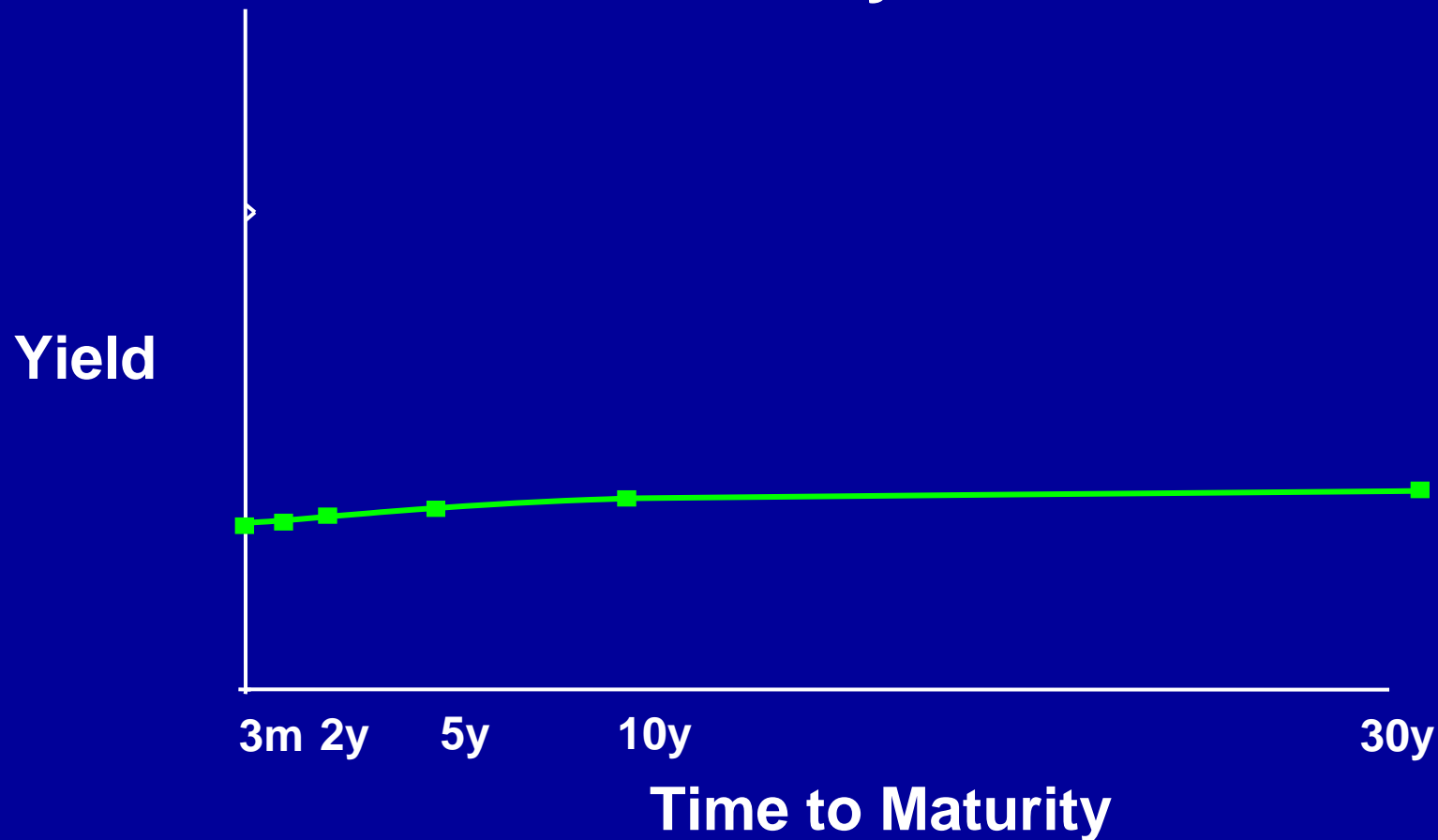
U.S. Treasury Yield Curves



Yield Curves

“Flat”

U.S. Treasury Yield Curves



Picking the Best Maturity Range

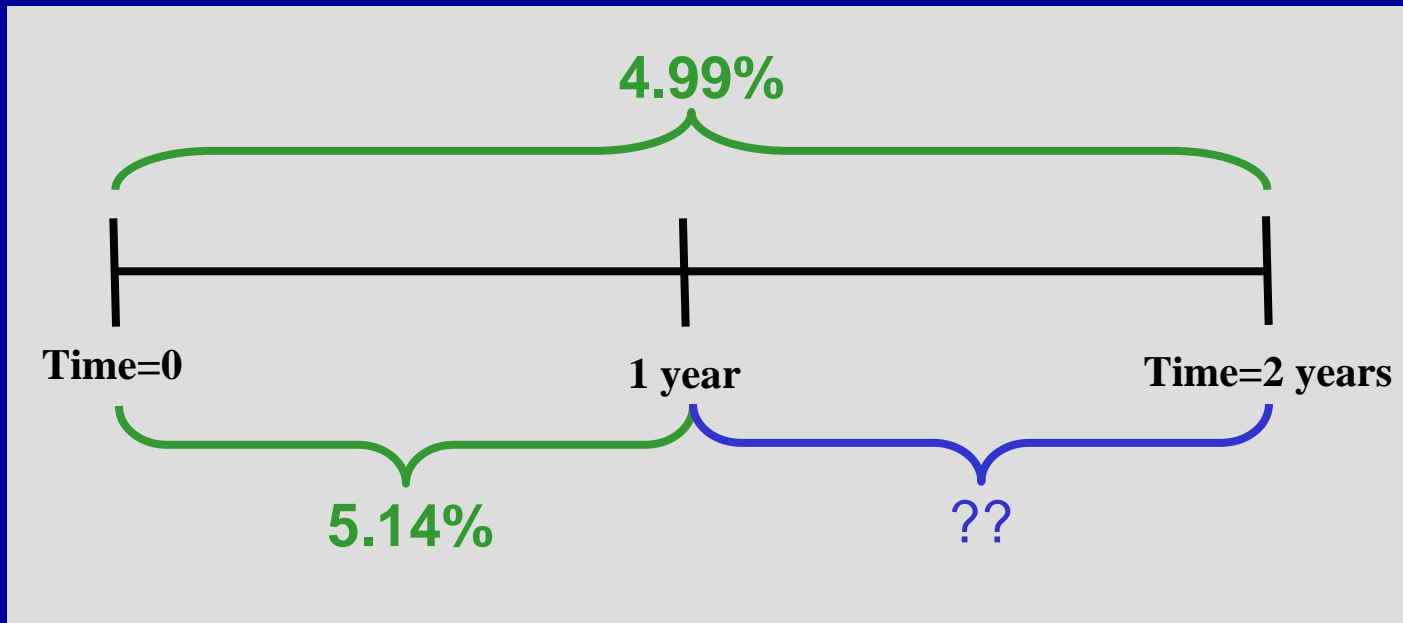
- Considering that the yield curve is inverted, should you buy short or long?

- Which would you buy?

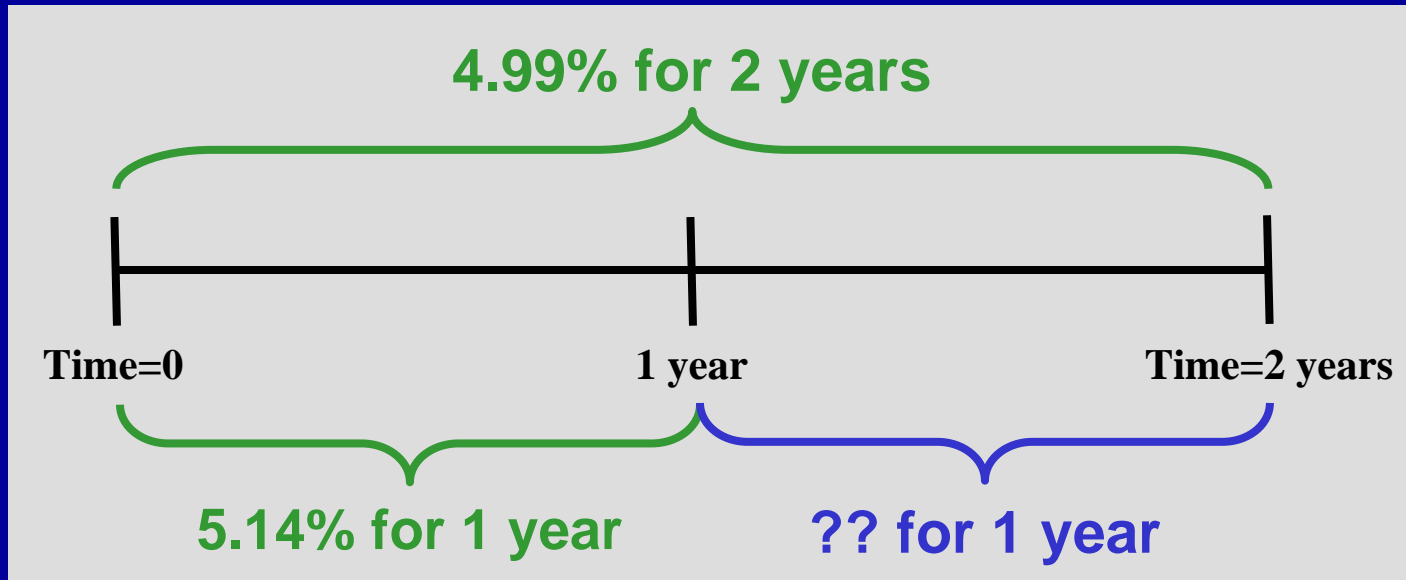
- 1-year Agency @ 5.14%
- 2-year Agency @ 4.99%

Breakeven Analysis

- Frame the question differently
 - What rate do you have to earn for the last year to breakeven?



Breakeven Analysis



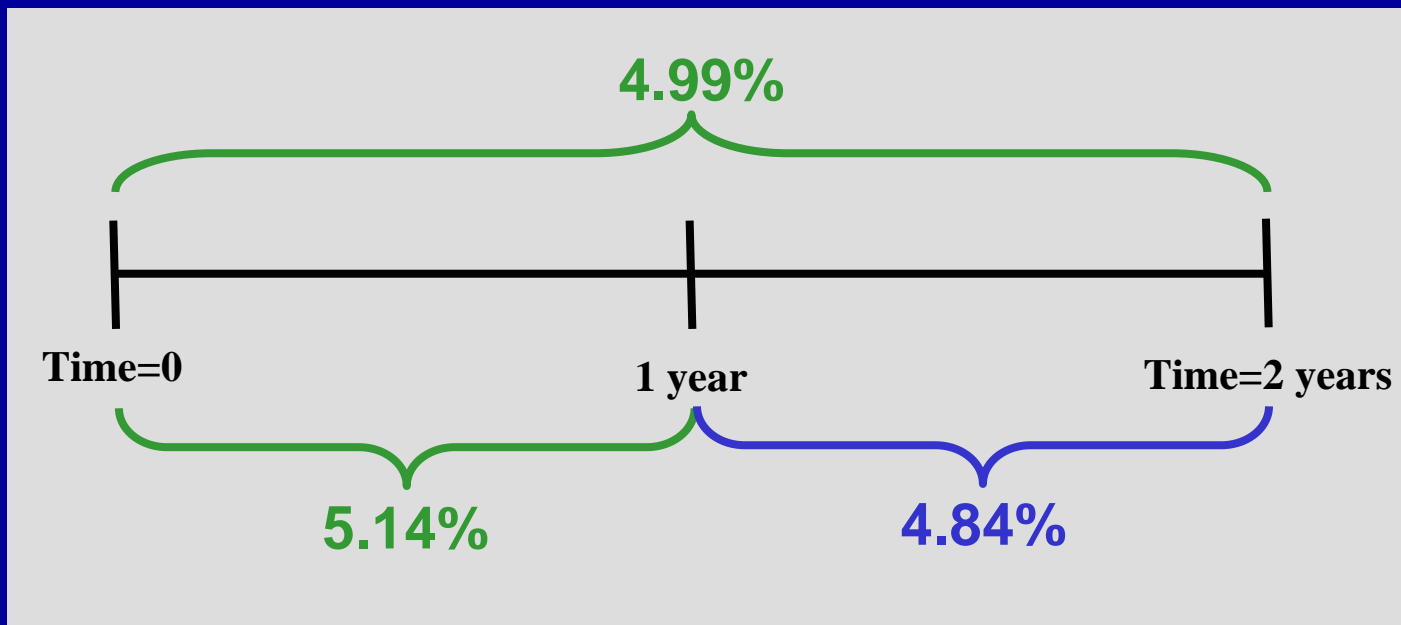
$$4.99\% \times 2 \text{ years} = (5.14\% \times 1 \text{ year}) + (?\% \times 1 \text{ year})$$

$$9.98 = 5.14 + ?$$

$$? = 4.84\%$$

Breakeven Analysis

- Do you think that rates will fall more than 30 basis points in the next year?
 - If no, buy the 1-year investment
 - If yes, buy the 2-year



Breakeven Analysis

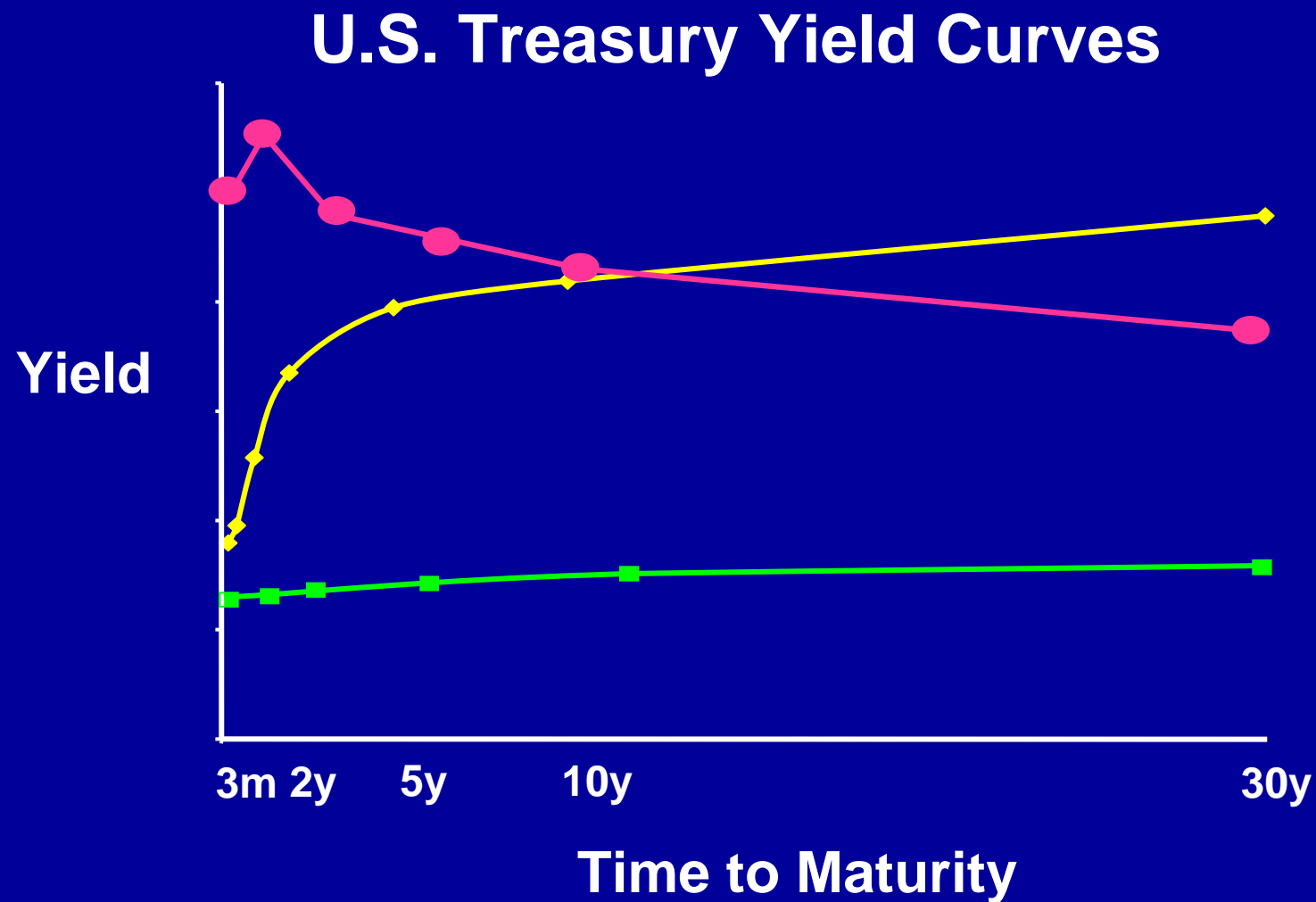
- How could you know if rates will fall more than 30 basis points in the next year?
 - **Frame the question differently**

- There are 8 Fed meetings in the next year.
- Is it likely that Fed will cut rates 25 basis points at 2 of the 8 meetings?
 - If yes, the Fed will cut rates 30 basis points or more in the next year, so the 2-year is a good choice.
 - If no, then the 1-year is a good choice.

How Quickly Will Rates Fall?

- The second step in breakeven analysis is determining if you think that the breakeven rate will come to be.
 - But how can you know?

Yield Curves



Key Concepts

- Determine how much is liquid, how much is core
- Reduce unnecessary liquidity
- Keep communication lines open with all parties involved:
 - Project Manager
 - Investment Manager
- After ensuring safety and correct liquidity level, Optimize!

Cash Flow and Investing

- Questions?
- Thank you!